U.S. Department of the Interior Bureau of Land Management White River Field Office 73544 Hwy 64 Meeker, CO 81641

# ENVIRONMENTAL ASSESSMENT

**NUMBER**: CO-110-2004-088-EA

CASEFILE/PROJECT NUMBER (optional): COC 63322 16-2-14, COC63323 9-3-18, 9-2-23,

8-4-17, 8-1-22

**PROJECT NAME**: 5 Geo Met Wells

**LEGAL DESCRIPTION**: T1N R100W, 16-2-14 Sec 16 NWNW, 9-3-18 Sec 9 NWSW, 9-2-

23 Sec9 SENW, 8-4-17 Sec 8 NWSE, 8-1-22 Sec 8 SENE

**APPLICANT**: GeoMet Operating Company, Inc.

# **DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

# Background/Introduction:

**Proposed Action**: GeoMet proposes to drill 5 gas wells to a depth of 2500 feet. The drill pads will be 225 feet by 175 feet. About one and a half miles of new road will be required to access these wells. Total disturbance will be about 14 acres.

The primary access will be on RBC 122.

An onsite, field inspection was held on March 26, 2004. The following is a list of concerns and modifications to GeoMet's proposal:

Production facilities will be placed to enable maximum interim reclamation.

Access will be signed and restricted at the county road/range boundary fence.

Dirt will be separated from the rock if possible.

Trees will be stored where they can best be used in reclamation

8-1-22 Location. No live trees will be affected because of the old wild fire burn. Cut and fills will be less than 6 feet. The producing location may be visible from the north. This visual impact can be minimized by placement of facilities and construction methods. The production/water pipeline will go north and this will have to be dealt with to minimize the visual/erosion/access concerns. The access road will be parallel to the range boundary fence. When this access road is

reclaimed, the trees and rocks will be evenly redistributed to within 8 feet of the fence and the remaining interval to the fence recontoured and seeded as per normal reclamation.

- 9-3-18 Round the corners on the east side of the drill pad to keep the fill dirt out of the valley. As the access road approaches from the north, the road will be routed to the west side of the saddle to require a side-cut. This re-route will aid in the final reclamation of the access road.
- 8-4-17 This is a terrible side hill location. Efforts will be taken by the applicant to keep dirt out of the gullies on the east side. Cut and fills will approach 12 feet. The location will be rounded as needed to fit the existing contour lines.
- 16-2-14 Cuts and fills will be about 10 feet. We moved the access road to provide better drainage and cross gullies at right angles.
- 9-2-23 The pad and access road were moved to the west to minimize impacts to critical deer winter forage.

**No Action Alternative:** No wells would be developed.

#### ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:

**NEED FOR THE ACTION**: GeoMet has submitted a request for a permit to drill.

<u>PLAN CONFORMANCE REVIEW</u>: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

<u>Decision Language</u>: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

# <u>AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:</u>

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

# **CRITICAL ELEMENTS**

# **AIR QUALITY**

Affected Environment: The entire White River RA has been designated as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II.

Environmental Consequences of the Proposed Action: The proposed action would result in short term, local impacts to air quality during construction, from fugitive dust being blown into the air.

*Environmental Consequences of the No Action Alternative:* Under the no action alternative, there would be no adverse affects on air quality.

*Mitigation*: The operator will be required to implement dust abatement as needed or as directed by BLM.

#### **CULTURAL RESOURCES**

Affected Environment: 8-1-22 well pad and access: the proposed well pad and access road has been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2003, Compliance Dated 3/8/2004) with two isolated finds located in the well pad inventory area.

- 8-4-17 well pad and access: the proposed well pad and access road has been inventoried at the Class III (100% pedestrian level (Conner and Davenport 2003, Compliance Dated 3/8/2003) with one isolated find located along he proposed access road.
- 9-2-23 well pad and access: the proposed well pad and access road has been inventoried at the Class III (100% pedestrian level (Conner and Davenport 2003, Compliance Dated 3/8/2003) with no new cultural resources identified in the inventory area.
- 9-3-18 well pad and access: the proposed well pad and access road has been inventoried at the Class III (100% pedestrian level (Conner and Davenport 2003, Compliance Dated 3/8/2003) with two isolated finds located in the well pad area.
- 16-2-14 well pad and access: the proposed well pad and access road has been inventoried at the Class III (100% pedestrian level (Conner and Davenport 2003, Compliance Dated 3/8/2003) with two isolated finds located along he proposed access road route.

*Environmental Consequences of the Proposed Action:* 8-1-22 well pad and access: two isolated finds, part of the overall area cultural record will definitely be lost. If these artifacts only represent the visible portions of a buried site then more serious loss to the cultural record could occur as a result of pad construction.

8-4-17 well pad and access: One isolated find, part of the overall area cultural record will possibly be lost. If the artifact only represents the visible portions of a buried site then more serious loss to the cultural record could occur as a result of construction of the well pad and access road.

9-2-23 well pad and access: There would be no know loss to the cultural resource data base for the region from construction of this well pad and access road.

9-3-18 well pad and access: if the two isolated finds cannot be avoided during construction then there will be a definite loss to the overall cultural record. If these artifacts only represent the visible portions of a buried site then more serious loss to the cultural record could occur as a result of construction of the well pad.

16-2-14 well pad and access: if the two isolated finds located along the access route cannot be avoided during access road construction then there will be some loss to the overall cultural resources record. However, if these artifacts only represent the visible portions of a buried site then more serious loss to the cultural record could occur as a result of construction of the well pad.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to cultural resources under the No Action Alternative.

*Mitigation*: 8-1-22 well pad: a monitor shall be required for initial top soil stripping of the well pad location; 8-1-22 well pad and access: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone,

with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

8-4-17 well pad and access: Avoid 5RB 4727 if possible. 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

- 2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
- 9-2-23 well pad and access: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:
  - whether the materials appear eligible for the National Register of Historic Places
  - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
  - a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are

correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

- 2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
- 9-3-18 well pad and access: 1. Avoid 5RB 4726 and 4727 if practicable. 2. Monitor top soil stripping of the well pad. 3. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:
  - whether the materials appear eligible for the National Register of Historic Places
  - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
  - a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

- 4. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
- 16-2-14 well pad and access: 1. Avoid 5RB 4727 if practicable. 2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject

to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

3. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

## **INVASIVE, NON-NATIVE SPECIES**

Affected Environment: With exception of the 2-23 well all of the wells are on a pinyon/juniper woodland site which has been burned by wildfire. The burned sites have been seeded with non-native species to stabilize soils and prevent invasion by noxious weed species. The 2-23 well is within a black sage basin. There are several noxious weed species of concern including; cheatgrass, bull, musk and Canada thistle, and knapweeds. Only cheatgrass is known to occur on site with the others occurring within the area.

Environmental Consequences of the Proposed Action: On the burned pinyon/juniper sites the period of recovery from the reclamation would mirror that of the burned site. Seedlings would establish within 30 years and develop a climax community in approximately 300 years. Using the proposed seed mix would act to decrease the opportunity for noxious weed and stabilize the soils. Using non-native species on this site would not affect the adjacent plant communities. On the 2-23 well the proposed seed mix is also adapted and would stabilize the site within 3-5 years and sage would invade the site in 5-7 years and dominate within 20 years.

With proper noxious weed management as required in the mitigation noxious weeds would not become a problem on the well pads and roads and would not invade the adjacent plant communities

Environmental Consequences of the No Action Alternative: There would be no impacts.

Mitigation: From Appendix B of the White River ROD/RMP; 188. Seed species used in reseeding disturbed areas will be based on the seed mix identified in table B-1 and B-2. These mixes are based on range sites as determined by soils. Standard Seed mix #4 is recommended for this site

179. Application of herbicides must be under field supervision of an EPA-certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

#### MIGRATORY BIRDS

Affected Environment: In each case, the proposed locations are sited in a large recent (2000) woodland burn. Habitats are now, and in the long term, grassland in character among a moderately dense, predominantly submature/early mature, stand of burned junipers. Unburned woodlands and small sagebrush parks (heavily encroached with submature junipers and regeneration) lie within 50 yards of the 6-14-17 and 9-2-23, respectively. The larger burned acreages are occupied by a depauperate avian community dominated by low densities of chipping sparrow, mountain bluebird, and house finch. None of these widely distributed generalists have been identified as having higher conservation interest (i.e., Rocky Mountain Bird Observatory, Partners in Flight program). In closer proximity to unburned acreage, species commonly represented in pinyon-juniper and sagebrush habitats exploit the burn margins for forage (e.g., gray flycatcher, black-throated gray warbler, vesper sparrow, spotted and greentailed towhees). A number of these shrubland and woodland associates have been identified as having higher conservation interest, but in each case, these populations are stable and well distributed in the Resource Area at appropriate densities in extensive suitable habitats. Mature woodlands within 1000 feet of the 6-4-17 location (i.e., benches on the back side of the ridge) were examined for evidence of woodland raptor nesting by a BLM biologist in April 2004 (no evidence of nesting found).

Environmental Consequences of the Proposed Action: Pad, road, and pipeline construction associated with this project would likely occur throughout the 2004 breeding season (i.e, 15 May through 15 July). However, because of low nesting bird densities in affected areas, the number of incidents where nests would be intersected by construction or be subjected to disturbances capable of failing an ongoing attempt would likely be less than 10, and the chance of involving any high priority species would be remote. Potential impacts of this magnitude would have no conceivable influence on the status of breeding bird populations at any landscape scale and construction delays to avoid the nesting season are not considered appropriate.

Environmental Consequences of the No Action Alternative: Although there would be no possibility of disrupting bird nesting attempts at the proposed locations, it is likely that alternate locations would be selected. It is likely that alternate sites would affect breeding birds in virtually the same manner and intensity as the proposed action.

Mitigation: None.

# THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: There are no threatened and endangered, or BLM-sensitive animals that are known to inhabit or derive important benefit from the project locale.

*Environmental Consequences of the Proposed Action:* The proposed action would have no conceivable influence on special status animals or associated habitat.

Environmental Consequences of the No Action Alternative: The no action alternative would have no conceivable influence on special status animals or associated habitat.

Mitigation: None.

Finding on the Public Land Health Standard for Threatened & Endangered species: Because the proposed or no-action alternatives would have no reasonable likelihood of influencing biotic or abiotic components that contribute or affect habitats or populations of special status species, a Public Land Health Standard finding is not germane to these actions.

# THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES (includes a finding on Standard 4)

Affected Environment: There are no threatened, endangered or sensitive plant species occurring within the project area.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: There is no reasonable likelihood that the proposed action or no action alternative would have an influence on the condition or function of Threatened, Endangered, or Sensitive plant species. Thus, there would be no effect on achieving the land health standard.

## WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at this site.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial

preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated.

*Environmental Consequences of the No Action Alternative:* No hazardous or other solid wastes would be generated under the no action alternative.

*Mitigation*: The operator shall be required to collect and properly dispose of any solid wastes generated by this project.

## WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Two well pads are in Fletcher Gulch (8-4-17 and 16-2-12) and the other three are in Spring Creek. Both of these drainage discharge directly into the White River and are contained in segment 13a, all tributaries to the White River including all wetlands, lakes and reservoirs from a point immediately above the confluence with Piceance Creek to a point immediately above the confluence with Douglas Creek.

A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list and the Unified Watershed Assessment was one to see if any water quality concerns have been identified. These well pads do no include any perennial surface waters. The State has classified this segment as a "Use Protected" reach. Its designated beneficial uses are: Warm Aquatic Life 2, Recreation 2, and Agriculture. The antidegredation review requirements in the Antidegredation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For this reach, minimum standards for three parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0 and Fecal Coliform = 2000/100ml and 630/100 ml E. coli. In addition standards for inorganic and metals have also been listed and can be found in the table of stream classifications and water quality standards.

Environmental Consequences of the Proposed Action: One problem that could arise from the proposed action would be an increase in sediment transport. Annual runoff from these watersheds is dynamic and dependent on some aspects we control, such as the amount of vegetation retained for watershed protection and vegetation density. Depleting the vegetation cover needed to protect watersheds from raindrop impact and runoff could cause short-term erosion problems and increased sedimentation to Fletcher Gulch, Spring Creek and on down to the White River until successful best management practices have been implemented and proven to be successful. The magnitude of these impacts would be dependent on the amount of surface disturbance and climatic conditions during the time the soils are exposed to the elements.

*Environmental Consequences of the No Action Alternative:* Impacts from the no-action alternative are not anticipated.

*Mitigation*: The operator shall keep sediment from leaving the site. In addition, apply the following Conditions of Approval listed in Appendix B of the White River ROD/RMP to help minimize surface disturbing impacts:

- 4. When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation once the drilling is completed. If well becomes a producing well, the pad will be graded and the topsoil pile will be distributed and seeded to reduce wind and water erosion.
- 6. All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years.
- 8. All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer.
- 24. Provide vegetative or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance.
- 35. Eliminate undesirable berms that retard normal surface runoff.

Finding on the Public Land Health Standard for water quality: Fletcher and Spring Creeks are well within the standards set by the State. The proposed action will not affect the drainages ability to meet the standards.

# **WETLANDS AND RIPARIAN ZONES** (includes a finding on Standard 2)

Affected Environment: There are no riparian or wetland communities directly involved or potentially affected by the proposed action.

*Environmental Consequences of the Proposed Action:* The proposed action would have no conceivable influence on riparian or wetland communities.

Environmental Consequences of the No Action Alternative: The no-action alternative would not have andy conceivable influence on riparian or wetland communities.

Mitigation: None.

Finding on the Public Land Health Standard for riparian systems: Because the proposed or no-action alternatives would have no reasonable likelihood of influencing biotic or abiotic components that contribute to or affect riparian or wetland communities, a Public Land Health Standard finding is not germane to these actions.

#### CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC's, flood plains, prime and unique farmlands, Wilderness study areas, or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

# NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

**SOILS** (includes a finding on Standard 1)

Affected Environment: The soils have been mapped in an order III soil survey by NRCS which is available for review at the field office. Refer to the table below for the type of soils affected by the proposed action.

<b>Proposed Action</b>	Soil Name	Soil pH	Permeability	Water Capacity	RunOff	<b>Erosion Potential</b>	Range site	Slope
Well Pads 8-1-22, 9-3-18, Well pad & Access Road 9-2-23	Bulkley channery silty clay loam	7.4-8.4	0.06-0.2	0.12-0.14	Rapid	High	Pinyon-Juniper woodlands	5-30%
Access Road 8-1-22	Moyerson stony clay loam	7.9-9.0	0.2-0.6	0.14-0.16	Rapid	Very high	Clayey Slopes	15-65%
Access Road & Well pad 8-4-17, 16-2-12	Rentsac- Moyerson- Rock Outcrop complex	6.6-8.4	2.0-6.0	0.12-0.16	Medium	Moderate to very high	PJ Woodlands/Clayey Slopes	5-65%

Wells 8-1-22, 9-3-18, and 9-2-23 are in soil type Bulkely Channery Silty clay loam. This deep, well drained soil is on uplands and hillsides. It formed in residuum and colluvium derived dominantly from calcareous clayey shale. The native vegetation is mainly sparse stands of pinyon and juniper trees, brush, and grasses. Elevation is 6,500 to 7,200 feet. The average annual precipitation is 16 to 19 inches, the average annual air temperature is 42 to 44 degrees F, and the average frost-free period is 80 to 95 days. Typically, the surface layer is pale brown channery silty clay loam 5 inches thick. The subsoil is very pale brown silty clay loam 15 inches thick. The substratum is very pale brown silty clay about 28 inches thick. Shale is at a depth of 48 inches. Depth to shale ranges from 40 o 60 inches. The subsoil and substratum crack when dry. Permeability of the Bulkley soil is low. Available water capacity is moderate. Effective rooting depth is 40 to 60 inches. Runoff is rapid, and the hazard of water erosion is high. It is in Pinyon-Juniper woodland site.

Wells 8-4-17 and 16-2-12 are in the Rentsac-Moyerson-Rock Outcrop complex. This map unit is on foothills and ridges. The native vegetation is mainly Pinyon and juniper trees with an understory of shrubs and grasses. Elevation is 5,800 to 7,200 feet. The average annual precipitation is 13 to 16 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 75 to 105 days. This unit is 40 percent Rentsac channery loam that has slopes of 5 to 50 percent, 25 percent Moyerson stony clay loam that has slopes of 15 to 65 percent, and 20 percent Rock outcrop that has slopes of 5 to 65 percent. The Moyerson soil is mainly in the lower lying areas of the unit. The components of this unit are so intricately

intermingled that it was not practical to map them separately at the scale used. The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy loam 7 inches thick. Sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. In some areas the surface layer is quite variable in texture. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to very high.

The Moyerson soil is shallow and well drained. It formed in residuum derived dominantly from shale. Typically, the surface layer is light gray stony clay loam about 2 inches thick. The next layer is gray clay loam about 8 inches thick. The underlying material is gray clay 7 inches thick. Shale is at a depth of 17 inches. Depth to shale ranges from 10 to 20 inches. In some areas the surface layer is silty clay loam, silty clay, light clay, or bouldery clay loam. Permeability of the Moyerson soil is slow. Available water capacity is low. Effective rooting depth is 10 to 20 inches. Runoff is medium to rapid, and the hazard of water erosion is very high. Rock outcrop consists of ridge caps, ridge points, and long vertical bluffs 3 to 25 feet thick and 25 to 1,500 feet long. The main limitations are steepness of slope and the shallow depth to bedrock. The Rentsac soil is in Pinyon-Juniper woodland site, and the Moyerson soil is in Clayey Slopes range site.

Environmental Consequences of the Proposed Action: Impacts associated with oil and gas and road development include but are not limited to, loss of topsoil, soil compaction and possible increase in sediment loads to the White River. The primary surface-disturbing impact would be a potential increase in sediment transport from stormwater runoff events after the protective vegetative cover has been removed.

The road to well pad #8-1-22 are in an area that has been identified as CSU-1, it is important to recognize the increased erosion potential and design best management practices, which will minimize this erosion. Submitting a copy of the Stormwater Discharge Plan, which is required by the State (Stormwater Discharge Permit) identifying how best management practices will be used to reduce stormwater discharge and erosion off of the roads, can be submitted to BLM in lieu of the required construction/reclamation plan. Best management practices used to slow runoff, trap sediment and prepare reclaimed areas for seeding would also help reduce soil loss. With an explanation of how these practices will be used and implemented, impacts are expected to be short in duration, during the construction phase and for a short time after construction until successful reclamation is achieved.

*Environmental Consequences of the No Action Alternative:* In the no-action alternative, neither the surface disturbance nor the impacts to soils resources would occur.

*Mitigation*: The applicant must submit, to BLM, a copy of the Stormwater Discharge Plan, which is required by the State identifying how best management practices will be used to reduce stormwater discharge. Use Standard Seed Mix # 4. In addition, the following conditions of approval from Appendix B, White River ROD must be applied:

- 96. Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, as directed by the authorized officer.
- 97. Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetative cover shall be reestablished to increase infiltration and provide additional protection from erosion.
- 98. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff

Finding on the Public Land Health Standard for upland soils: Site specifically, these soils would probably not meet the Land Health Standards because of the presence of some indicators (i.e. rill erosion, and actively-eroding gullies), on a temporary basis. This condition would exist until successful reclamation has occurred. Based on the overall landscape, the Land Health Standards would not be affected.

# **VEGETATION** (includes a finding on Standard 3)

Affected Environment: With exception of the 9-2-23 well the project area is a pinyon/juniper woodland which has been burned by wildfire. This wildfire was seeded in 2000 for the purpose of soil stabilization. This seeding was a success and provides excellent herbaceous cover. Given the large extent of this burn, the pinyon/juniper woodland is not expected to invade this site for the next 30 years. A climax woodland community is expected to develop within the 200 to 300 years. The 9-2-23 well is within a black sage basin. The predominate species are; black sage, western wheatgrass, Indian ricegrass and a variety of forbs.

Environmental Consequences of the Proposed Action: Following reclamation these plant communities would be stabilized to prevent soil loss. The native plant communities would be restored over a period of time, typical of normal disturbance/recovery. Using the proposed seed mix would decrease the opportunity for cheatgrass to invade and dominate this site.

*Environmental Consequences of the No Action Alternative:* There would be no impacts.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Following reclamation these plant communities would develop into diverse and productive communities which would meet the standard for vegetiation health.

# WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: These locations are situated on ridgeline or bench positions that are isolated from the nearest perennial stream system (i.e., Spring Creek) by 1.5 miles, and from the White River by at least 9 additional channel miles.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on aquatic habitats.

*Environmental Consequences of the No Action Alternative:* The no-action alternative would not have any conceivable influence on aquatic habitats.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Because the proposed or no-action alternatives would have no reasonable likelihood of influencing biotic or abiotic components that contribute to or affect aquatic habitats or populations of aquatic organisms, a Public Land Health Standard finding is not germane to these actions.

# **WILDLIFE**, **TERRESTRIAL** (includes a finding on Standard 3)

Affected Environment: The proposed project area is classified by the Colorado Division of Wildlife as mule deer summer range. This seasonal range is considered critical habitat owing to its relative scarcity in Game Management Unit 21. The area is situated on the lower elevational extent of summer range and supports considerable use by deer and elk during the spring and fall/early winter months. Since the large wildfire in 2000, reductions in pinyon-juniper cover has likely had a significant influence on big game distribution, confining much use (particularly deer) to within several hundred feet of the burn margins (e.g., 9-2-23, 8-4-17, 8-1-22) or where topography yields an effective cover component (16-2-14). The project area is currently unroaded with the exception of an unimproved and infrequently used 2-track that parallels the fenceline to the 8-1-22 location. As currently proposed, the locations involve early-seral burned woodland communities; one pad was shifted slightly during on-sites to avoid involvement of adjacent black and Wyoming big sagebrush stands.

Environmental Consequences of the Proposed Action: This action would represent a substantive intrusion onto unroaded big game ranges. Considering the open character of this range and the tendency of non-habituated elk and deer to remain  $\pm$  600 feet from human disturbances, avoidance-related reductions in the utility of forage resources would involve up to 250 acres. This affect would be most pronounced in the short term during construction/drilling, but these impacts could be expected to continue into the long term in the event road access remained unregulated. The White River ROD/RMP established effective road density objectives of 1.5 miles per square mile on big game critical habitats within the Resource Area as a means of limiting animal displacement, habitat disuse, and extraneous energy demands that attend human activity on important big game ranges. Application of vehicle access restrictions and final road abandonment provisions to this project would help meet this objective in the short and long term. Limiting vehicle access only to that associated with gas development would not detract from the current access network, but would significantly reduce the frequency and intensity of post-drilling vehicle use and human activity on these formerly unroaded habitats.

Surface disturbance and longer term loss of herbaceous forage resources on the 15 or so acres occupied by facilities and access would be minimized by designing pads such that production facilities are located near the access entrance to pad, helping to maximize the extent of pad that can be reclaimed through the life of the well.

Environmental Consequences of the No Action Alternative: Failing to develop these wells would maintain the current condition and functional qualities of the project area.

*Mitigation*: All sites: Design production facilities in a manner that maximizes the extent of pad that can be reclaimed after drilling and completion operations.

Establish and maintain a lockable gate at the existing fenceline to effectively deter general public vehicular access (authorized use is that associated with construction, maintenance, or production of gas facilities) to the 9-3-18, 8-4-17, and 16-2-14 locations. This gate should remain locked throughout the year.

- 8-1-22: Final rehabilitation of access to the location: redistribute rock and woody debris to within 8 feet of fenceline and rehabilitate (condition seedbed and seed) entire access route such that no barren roadbase remains (i.e., allowing sufficient room for redevelopment of 2-track for fence maintenance).
- 9-3-18: site road to side of saddle (to west, as discussed on on-site) to develop brief stretch of sidecast to better rehabilitate and disguise roadbed for final reclamation. Stockpile cleared trees to evenly redistribute on fully recontoured roadbed to deter subsequent vehicle use at final reclamation.
- 16-2-14: stockpile cleared trees to evenly redistribute on fully recontoured roadbed to deter subsequent vehicle use at final reclamation.
- 8-4-17: stockpile cleared trees to evenly redistribute on fully recontoured roadbed to deter subsequent vehicle use at final reclamation.
- 9-2-23: location was moved about 100 feet to the south during onsite to avoid involvement of small stands of Wyoming and black sagebrush stands (as important and heavily used winter deer forage) that remain on the edge of the burn. Fully recontour and abandon pad access upon final reclamation.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project area supports a predominantly well-developed native herbaceous ground cover that meets the public land health standard for terrestrial animal communities. Although this action would contribute to localized inclusions that fail to meet health standards for animals, application of interim reclamation practices and incorporation of access limitations and road abandonment provisions would reduce the deterioration of habitat utility and suitability in the short and long term and help maintain the long term integrity of the broader landscape as habitat for terrestrial animal communities.

**OTHER NON-CRITICAL ELEMENTS:** For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not	Applicable or Present, No Impact	Applicable & Present and Brought Forward for
	Present		Analysis
Access and Transportation		X	
Cadastral Survey	X		
Fire Management	X		
Forest Management			
Geology and Minerals			X
Hydrology/Water Rights	X		
Law Enforcement		X	
Paleontology			X
Rangeland Management		X	
Realty Authorizations	X		
Recreation			
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

#### FOREST MANAGEMENT

Affected Environment: All but well 9-2-23 is within a burned, pinyon/juniper woodland. The wood on site has not provided any public benefits because of a lack of access.

Environmental Consequences of the Proposed Action: The proposed action would require removing the burned remnants of the woodland. This debri would be valuable when placed on the reclaimed roads, to prevent vehicle access. For this reason no reimbursement for the value of wood products would be required.

Environmental Consequences of the No Action Alternative: There would be no impacts.

*Mitigation*: Trees may be removed with a bulldozer and stockpiled along the roads and wellpad. This material is then to be pulled back onto the reclaimed area to discourage vehicle use.

## **GEOLOGY AND MINERALS**

Affected Environment: The surface geologic formation of the well locations is Wasatch and GeoMet's targeted zone is in the Mesaverde coals. During drilling potential water, coal, and gas zones will be encountered from surface to the targeted zone. These wells are located in an area that is identified in the White River ROD/RMP as suitable for surface and subsurface coal mining. The Deserado Coal Mine is located across the White River approximately 7.5 miles

north and west of the proposed wells with the nearest existing coal lease approximately 7 miles north of the proposed wells.

Environmental Consequences of the Proposed Action: Cementing procedure of the proposed actions isolates the formations and will prevent the migration of gas, water, and oil between formations. The coal zones located the Mesaverde will also be isolated during this procedure. Development of these wells will remove the water and deplete the methane resources in the targeted formation.

Environmental Consequences of the No Action Alternative: None

Mitigation: None

#### **PALEONTOLOGY**

Affected Environment: 8-1-22 well pad and access: the proposed well pad and access location are located in an area mapped as the Cretaceous Williams Fork formation (Tweto 1979) which the BLM has not classified as a Category I formation. Instead the Williams fork formation is being treated as a Category II formation meaning that the fossil producing potential of the formation is not well understood in the area at this time.

- 8-4-17 well pad and access: the proposed well pad and access location are located in an area mapped as the Cretaceous Williams Fork formation (Tweto 1979) which the BLM has not classified as a Category I formation. Instead the Williams fork formation is being treated as a Category II formation meaning that the fossil producing potential of the formation is not well understood in the area at this time.
- 9-2-23 well pad and access: the proposed well pad and access location are located in an area mapped as the Cretaceous Williams Fork formation (Tweto 1979) which the BLM has not classified as a Category I formation. Instead the Williams fork formation is being treated as a Category II formation meaning that the fossil producing potential of the formation is not well understood in the area at this time.
- 9-3-18 well pad and access: the proposed well pad and access location are located in an area mapped as the Cretaceous Williams Fork formation (Tweto 1979) which the BLM has not classified as a Category I formation. Instead the Williams fork formation is being treated as a Category II formation meaning that the fossil producing potential of the formation is not well understood in the area at this time.
- 16-2-14 well pad and access the proposed well pad and access location are located in an area mapped as the Cretaceous Williams Fork formation (Tweto 1979) which the BLM has not classified as a Category I formation. Instead the Williams fork formation is being treated as a Category II formation meaning that the fossil producing potential of the formation is not well understood in the area at this time.

Environmental Consequences of the Proposed Action: 8-1-22 well pad and access: if it should become necessary to excavate into the underlying bedrock formation in order to construct the road, level the well pad and/or excavate the reserve/blooie pit there is an unknown potential to impact fossil resources. The scientific importance of any fossils that might be present is currently unknown but likely to be quite high given the current lack of information for formation.

- 8-4-17 well pad and access: if it should become necessary to excavate into the underlying bedrock formation in order to construct the road, level the well pad and/or excavate the reserve/blooie pit there is an unknown potential to impact fossil resources. The scientific importance of any fossils that might be present is currently unknown but likely to be quite high given the current lack of information for formation.
- 9-2-23 well pad and access: if it should become necessary to excavate into the underlying bedrock formation in order to construct the road, level the well pad and/or excavate the reserve/blooie pit there is an unknown potential to impact fossil resources. The scientific importance of any fossils that might be present is currently unknown but likely to be quite high given the current lack of information for formation.
- 9-3-18 well pad and access: if it should become necessary to excavate into the underlying bedrock formation in order to construct the road, level the well pad and/or excavate the reserve/blooie pit there is an unknown potential to impact fossil resources. The scientific importance of any fossils that might be present is currently unknown but likely to be quite high given the current lack of information for formation.
- 16-2-14 well pad and access: if it should become necessary to excavate into the underlying bedrock formation in order to construct the road, level the well pad and/or excavate the reserve/blooie pit there is an unknown potential to impact fossil resources. The scientific importance of any fossils that might be present is currently unknown but likely to be quite high given the current lack of information for formation.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to fossil resources under the No Action Alternative.

*Mitigation*: For all wells and access roads; if it becomes necessary to excavate into the underlying bedrock formation to level the well pad or excavate the reserve/blooie pit an approved paleontologist shall be required to examine the exposed formation for the presence of fossils

#### RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

Environmental Consequences of the Proposed Action: The public will lose approximately 14 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists and will most likely result in complaints from hunters that have historically used this area.

*Environmental Consequences of the No Action Alternative*: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

#### **VISUAL RESOURCES**

Affected Environment: These wells are in an area managed as Visual Resource Management Area (VRM) Class 3. The objective of this class is to partially retain the existing character of the landscape. The level of change to characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Much of the affected area has been burned by wildfire in recent years. Thus few trees will be affected by the project and new roads will have less of an impact. Only two of the wells will actually be visible from near-by roads.

Environmental Consequences of the Proposed Action: The visual affects from this project will be result in a moderate change to the characteristic landscape. VRM Class 3 objectives will be met.

*Environmental Consequences of the No Action Alternative:* None

Mitigation: None

**CUMULATIVE IMPACTS SUMMARY:** No cumulative impacts were identified. The White River PRMP/FEIS analyzed cumulative impacts of resource-area-wide oil and gas development.

#### PERSONS / AGENCIES CONSULTED:

#### **INTERDISCIPLINARY REVIEW:**

Name	Title	Area of Responsibility
Caroline Hollowed	Hydrologist	Air Quality
Tamara Meagley	NRS	Areas of Critical Environmental Concern
Tamara Meagley	NRS	Threatened and Endangered Plant Species
Michael Selle	Archaeologist	Cultural Resources Paleontological Resources
Robert Fowler	Forester	Invasive, Non-Native Species
Ed Hollowed	Wildlife Biologist	Migratory Birds
Ed Hollowed	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Marty O'Mara	Hazmat Collateral	Wastes, Hazardous or Solid
Caroline Hollowed	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Ed Hollowed	Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	ORP	Wilderness
Caroline Hollowed	Hydrologist	Soils
Robert Fowler	Forester	Vegetation
Ed Hollowed	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	ORP	Access and Transportation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Robert Fowler	Forester	Rangeland Management
Penny Brown	Realty Specialist	Realty Authorizations
Chris Ham	ORP	Recreation
Max McCoy	NRS	Visual Resources
Valerie Dobrich	NRS	Wild Horses

# Finding of No Significant Impact/Decision Record (FONSI/DR)

# CO-110-2004-088-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

<u>**DECISION/RATIONALE**</u>: It is my decision to approve the proposed action with the mitigation as listed below.

# **MITIGATION MEASURES**:

- 1) The operator will be required to implement dust abatement as needed or as directed by BLM.
- 2) At wells number 8-4-17, 9-3-18, and 16-2-14 avoid 5RB 4727 if possible.
- 3) An archaeological monitor shall be required for initial topsoil stripping for well pad locations 8-1-22 and 9-3-18 and for the access road for 9-3-18.
- 4) For well pad 8-1-22, and the other well pads and access roads, the operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:
  - whether the materials appear eligible for the National Register of Historic Places
  - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
  - a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator

will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

- 5) Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
- 6) Design production facilities in a manner that maximizes the extent of pad that can be reclaimed after drilling and completion operations.
- 7) For well #8-1-22: Final rehabilitation of access to the location: redistribute rock and woody debris to within 8 feet of fenceline and rehabilitate (condition seedbed and seed) entire access route such that no barren roadbase remains (i.e., allowing sufficient room for redevelopment of 2-track for fence maintenance).
- 8) For well #9-3-18: site road to side of saddle (to west, as discussed on on-site) to develop brief stretch of sidecast to better rehabilitate and disguise roadbed for final reclamation. Stockpile cleared trees to evenly redistribute on fully recontoured roadbed to deter subsequent vehicle use at final reclamation.
- 9) Sockpile cleared trees to evenly redistribute on fully recontoured roadbed to deter subsequent vehicle use at final reclamation.
- 10) The #9-2-23well location was moved about 100 feet to the west during the onsite to avoid involvement of small stands of Wyoming and black sagebrush stands (as important and heavily used winter deer forage) that remain on the edge of the burn.
- 11) From Appendix B of the White River ROD/RMP use standard seed mix #4. The required seed mix is as follows:

SPECIES (VARIETY)	LBS. PLS/ACRE
Pubescent wheatgrass (Luna)	4
Western wheatgrass (Rosanna)	2
Indian ricegrass (Nezpar)	2
Orchardgrass (Paiute)	1

- 12) Use seed that is certified and free of noxious weeds. Seed certification tags must be submitted to the Field Office Manager.
- 13) Application of herbicides must be under field supervision of an EPA-certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

- 14) The operator shall be required to collect and properly dispose of any solid wastes generated by this project.
- 15) When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation once the drilling is completed. If well becomes a producing well, the pad will be graded and the topsoil pile will be distributed and seeded to reduce wind and water erosion.
- 16) All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years.
- 17) All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer.
- 18) Provide vegetative or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance.
- 19) Eliminate undesirable berms that retard normal surface runoff.
- 20) The applicant must submit, to BLM, a copy of the Stormwater Discharge Plan, which is required by the State identifying how best management practices will be used to reduce stormwater discharge.
- 21) Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, as directed by the authorized officer.
- 22) Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetative cover shall be reestablished to increase infiltration and provide additional protection from erosion.
- 23) When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.
- 24) Design production facilities in a manner that maximizes the extent of pad that can be reclaimed after drilling and completion operations.
- 25) Establish and maintain a lockable gate at the existing fenceline to effectively deter general public vehicular access (authorized use is that associated with construction, maintenance, or production of gas facilities) to the 9-3-18, 8-4-17, and 16-2-14 locations. This gate should remain locked throughout the year.
- 26) Reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. If the well is a producer those areas not needed for production shall be recontoured and the entire area seeded. If the well is a dry hole, all the disturbance shall be

recontoured to the original landscape and reseeded to the satisfaction of the BLM. Final reclamation actions shall be initiated within six months of the termination of operations unless otherwise approved in writing by the Authorized Officer.

- 27) Trees may be removed with a bulldozer and stockpiled along the roads and wellpad. This material is then to be pulled back onto the reclaimed area to discourage vehicle use.
- 28) If it should become necessary to excavate into the underlying bedrock formation to level the well pad or excavate the reserve/blooie pit an approved paleontologist should be given the opportunity to examine the exposed formation for the presence of fossils.
- 29) No load lines shall extend outside the tank dike.
- 30) The reserve pit shall have a minimum of two feet of freeboard at all times. Freeboard shall be measured from the top of the pit (liner) to the surface of the water in the reserve pit.
- 31) All produced fluids including dehydrator vent/condensate line effluent must be contained. All production pits must be fenced with woven wire.
- 32) The concentration of hazardous substances in the reserve pit at the time of pit backfilling must not exceed the standards set forth in CERCLA.
- 33) All open-vent exhaust stacks associated with heater-treater, separator and dehydrator units shall be installed to prevent birds and bats from entering the exhaust stacks and to the extent practical to discourage perching and nesting.
- 34) Fill material shall be pushed into cut areas and up over backslopes. Leave no depressions that will trap water or form ponds.
- 35) Any livestock control facilities and/or rangeland improvements impacted during this operation will be replaced or repaired to their prior condition.
- 36) Well #9-3-18: site road to side of saddle (to west, as discussed on on-site) to develop brief stretch of sidecast to better rehabilitate and disguise roadbed for final reclamation. Stockpile cleared trees to evenly redistribute on fully recontoured roadbed to deter subsequent vehicle use at final reclamation.

# **COMPLIANCE/MONITORING:**

NAME OF PREPARER: Max McCoy

NAME OF ENVIRONMENTAL COORDINATOR: Carline P. Hollowed 5/5/04

SIGNATURE OF AUTHORIZED OFFICIAL: Veran Phyl

ATTACHMENTS:

CO-110-2004-088-EA 26

